

Please replace the paragraph beginning at page 27, line 24 with the following rewritten paragraph:

-- The BLAST programs identify homologous sequences by identifying similar segments, which are referred to herein as "high-scoring segment pairs," between a query amino or nucleic acid sequence and a test sequence which is preferably obtained from a protein or nucleic acid sequence database. High-scoring segment pairs are preferably identified (*i.e.*, aligned) by means of a scoring matrix, many of which are known in the art. Preferably, the scoring matrix used is the BLOSUM62 matrix (Gonnet *et al.*, Science 256:1443-1445, 1992; Henikoff and Henikoff, Proteins 17:49-61, 1993). Less preferably, the PAM or PAM250 matrices may also be used (see, *e.g.*, Schwartz and Dayhoff, eds., 1978, *Matrices for Detecting Distance Relationships: Atlas of Protein Sequence and Structure*, Washington: National Biomedical Research Foundation). BLAST programs are accessible through the U.S. National Library of Medicine, *e.g.*, at the National Center for Biotechnology Information website. --

Please replace the paragraph beginning at page 119, line 1 with the following rewritten paragraph:

-- NCBI, National Library of Medicine. National Institutes of Health: BLAST Sequence Similarity Searching (the National Center for Biotechnology Information website). --

In the claims:

Please cancel claims 1-17 and 19-40.

Please replace claim 18 with the rewritten claim 18 presented below. Claims 41-48 are not amended and have been presented herein in order to present a clean copy of the pending claims as requested by the Patent Office.

-- 18. (Twice Amended) A method to produce an animal feed containing a microbial phytase comprising:

a) providing a plant cell, plant part or plant that contains a recombinant expression system comprising a phytase-encoding nucleic acid sequence having a nucleotide sequence selected from

i) SEQ ID NO: 1, and

ii) SEQ ID NO: 1, wherein T can also be U;

b) culturing the plant cell, plant part or plant under conditions wherein said nucleotide sequence is expressed as a polypeptide; and

c) converting said plant cells, plant parts or plants into a composition suitable for animal feed, wherein the animal feed contains phytate and the phytase. --

41. The method of claim 18, wherein the recombinant expression system comprises a vector containing the nucleic acid sequence encoding said phytase.

42. The method of claim 18, wherein said nucleotide sequence is preceded by a polynucleotide sequence encoding a signal peptide operably linked to said nucleotide sequence.

43. The method of claim 41, wherein the nucleic acid sequence is operably linked to a transcription control sequence operable in said plant cells, plant parts or plants.

44. The method of claim 43, wherein the control sequence comprises a tissue-specific promoter that is specific for the plant cells, plant parts or plants.

45. The method of claim 43, wherein the control sequence comprises a constitutive promoter.

46. The method of claim 18, wherein the phytase catalyzes liberation of inorganic phosphate from the phytate in the animal feed.

47. The method of claim 46, wherein the liberation occurs after the ingestion of said foodstuff by a recipient organism.

48. The method of claim 46, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs in part prior to and in part after the ingestion of said foodstuff by a recipient organism.

Please add claims 49-71.

-- 49. (New) The method of claim 46, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs prior to the ingestion of said foodstuff by a recipient organism.

50. (New) The method of claim 18, further comprising purifying the expressed polypeptide.

51. (New) The method of claim 18, wherein the plant comprises seeds containing phytase to be used to catalyze phytate-hydrolyzing reactions.

52. (New) The method of claim 18, wherein the animal feed is for a non-ruminant animal.

53. (New) The method of claim 18, wherein the animal feed is for a monogastric animal.

54. (New) The method of claim 18, wherein the plant cells, plant part, or plant is of a dicotyledonous species.

55. (New) The method of claim 18, wherein the plant cells, plant part, or plant is of a monocotyledonous species.

56. (New) A method to produce an animal feed containing a microbial phytase comprising:

a) providing a plant cell, plant part or plant that contains a recombinant expression system comprising a phytase-encoding nucleic acid sequence having a nucleotide sequence selected from

i) a sequence encoding a polypeptide sequence as set forth in SEQ ID NO:2

and

ii) the sequence encoding the polypeptide sequence as set forth in SEQ ID NO:2, wherein T can also be U,

b) culturing the plant cell, plant part or plant under conditions wherein said nucleotide sequence is expressed; and

c) converting said plant cells, plant parts or plants into a composition suitable for animal feed, wherein the animal feed contains phytate and the phytase.

57. (New) The method of claim 56, wherein the recombinant expression system comprises a vector containing the nucleic acid sequence encoding said phytase.

58. (New) The method of claim 56, wherein said nucleotide sequence is preceded by a polynucleotide sequence encoding a signal peptide operably linked to said nucleotide sequence.

59. (New) The method of claim 57, wherein the nucleic acid sequence is operably linked to a transcription control sequence operable in said plant cells, plant parts or plants.

60. (New) The method of claim 59, wherein the control sequence comprises a tissue-specific promoter that is specific for the plant cells, plant parts or plants.

61. (New) The method of claim 59, wherein the control sequence comprises a constitutive promoter.

Part 25
62. (New) The method of claim 56, wherein the phytase catalyzes liberation of inorganic phosphate from the phytate in the animal feed.

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63. (New) The method of claim 62, wherein the liberation occurs after the ingestion of said foodstuff by a recipient organism.

64. (New) The method of claim 62, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs in part prior to and in part after the ingestion of said foodstuff by a recipient organism.

65. (New) The method of claim 62, wherein the liberation of the inorganic phosphate from the phytate in said foodstuff occurs prior to the ingestion of said foodstuff by a recipient organism.

66. (New) The method of claim 56, further comprising purifying the expressed polypeptide.

67. (New) The method of claim 56, wherein the plant comprises seeds containing phytase to be used to catalyze phytate-hydrolyzing reactions.

68. (New) The method of claim 56, wherein the animal feed is for a non-ruminant animal.

Part 25
69. (New) The method of claim 56, wherein the animal feed is for a monogastric animal.

70. (New) The method of claim 56, wherein the plant cell, plant part, or plant is of a dicotyledonous species.

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71. (New) The method of claim 56, wherein the plant cell, plant part, or plant is of a monocotyledonous species. --